

Salt River Project Agricultural Improvement and Power District

Advanced Data Acquisition and Management Program

Abstract

Salt River Project Agricultural Improvement and Power District's (SRP) Advanced Data Acquisition and Management Program project involves the installation of smart meters, supporting communication infrastructure, and the expansion of advanced electric service options for customers. Virtually all SRP customers are receiving new smart meters, which monitor electric consumption and power quality. A two-way communication system relays customer electricity data to the utility, where upgraded software platforms analyze and present the data. SRP expects the smart meters to reduce meter-reading costs and field service visits, lower vehicle emissions, and enable development of advanced electric services for customers. These services include a Web portal and expansion of existing time-of-use rates that empower the customer and enable a lower peak demand for SRP. Charging stations for plug-in electric vehicles and transformer metering are being monitored and evaluated.

Smart Grid Features

Communications infrastructure includes the expansion of a two-way wireless mesh radio communications network across the entire SRP service territory. This upgrade relays data from the smart meters to SRP and enables the automation of metering services. A meter data management system together with communications upgrades provide a software platform organizing and analyzing hourly load data and presenting this information to customers via a Web portal. SRP expects the remote meter reading capabilities to reduce the need for truck rolls and site visits and provide information feedback platforms for advanced electric service options.

Advanced metering infrastructure (AMI) includes the installation of 580,893 new smart meters in SRP's service territory. These meters have the ability to digitally record consumption, voltage, and power quality data. Meter data, managed by the meter data management system, is expected to improve distribution planning and operations, allow for development of time-based rate programs, and provide for future outage detection capabilities. Operational cost savings are derived from the automation of meter reading and customer services activities through both the AMI and meter data management system. New AMI features remote service switches so that SRP can respond to customer requests and outage notifications more quickly and efficiently. SRP is also piloting smart meters on select transformers to assess transformer engineering and sizing methodologies and system loss.

At-A-Glance

Recipient: Salt River Project Agricultural Improvement and Power District
State: Arizona
NERC Region: Western Electricity Coordinating Council
Total Budget: \$114,003,719
Federal Share: \$56,859,359

Project Type: Advanced Metering Infrastructure

Equipment

- 580,893 Smart Meters
- AMI Communication Systems
 - Meter Communications Network
 - Backhaul Communications
- Meter Data Management System
- Customer Web Portal

Time-Based Rate Programs

- Time of Use

Key Targeted Benefits

- Reduced Meter Reading Costs
- Reduced Operating and Maintenance Costs
- Reduced Truck Fleet Fuel Usage
- Reduced Greenhouse Gas and Criteria Pollutant Emissions

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Advanced electricity service options include a Web portal for customers to view their electricity consumption, electricity prices, and other information for more informed decision making.

Time-based rate programs include the expansion of existing time-of-use rate programs to customers receiving new meters. SRP expects customers participating in time-of-use rate program to shift their electricity usage from peak- to off-peak periods, which can reduce overall electricity costs, provide customers with greater control over their consumption and bills, and limit the costs and emissions from adding peak generation capacity.

Timeline

Key Milestones	Target Dates
AMI installation start	Q3 2009
Communications infrastructure deployment start	Q2 2010
Communications infrastructure deployment completed	Q1 2013
Advanced meter infrastructure installation completed	Q2 2013

Contact Information

Michael Lowe

Program Director and Principal Investigator

Manager, Customer Services - Power

Salt River Project Agricultural Improvement and Power District

Michael.Lowe@srpnet.com

Scott Trout

Program Manager, Federal Stimulus Program

Salt River Project Agricultural Improvement and Power District

Scott.Trout@srpnet.com